POSITIONS AND AREAS OF SUN SPOTS—Continued

Date	Eastern standard civil time	Heliographic Diff. long.	Heliographic Longitude	Heliographic Latitude	Area Spot	Area Group	Total area for each day
1930	h m	°	°	°			
Dec. 3 (Naval Observatory)	11 45	+20.5	37.3	+9.0	------	93	------
		+71.0	87.8	+14.0	------	93	186
Dec. 4 (Naval Observatory)	10 47	+33.5	37.6	+8.5	------	93	------
		+75.5	79.6	+16.5	------	46	139
Dec. 5 (Mount Wilson)	12 50	+49.0	38.9	+9.0	------	32	32
Dec. 6 (Mount Wilson)	13 40	+60.0	36.2	+10.0	9	------	9
Dec. 7 (Mount Wilson)	12 30	+80.0	43.6	+9.0	16	------	16
Dec. 8 (Naval Observatory)	10 46	------	------	------	------	------	(*)
Dec. 9 (Naval Observatory)	13 33	−74.0	222.7	+5.0	------	170	170
Dec. 10 (Perkins Observatory)	11 37	−64.5	220.2	+5.0	------	186	186
Dec. 11 (Mount Wilson)	14 0	−55.0	215.2	+3.0	------	11	------
		−48.0	222.2	+11.0	------	5	------
		−48.0	222.2	+5.0	83	------	------
		−37.0	233.2	+17.0	------	9	108
Dec. 12 (Naval Observatory)	11 5	−37.0	221.6	+6.5	------	93	------
		−36.0	222.6	+10.5	15	------	------
		+26.0	284.6	+11.5	9	------	117
Dec. 13 (Naval Observatory)	11 40	−22.5	222.6	+6.0	------	123	123
Dec. 14 (Mount Wilson)	14 10	−16.0	214.5	+6.0	14	------	------
		−5.0	225.5	+6.0	------	80	------
		+10.0	240.5	−12.0	------	90	184
Dec. 15 (Naval Observatory)	11 44	+7.0	225.7	+6.5	19	------	------
		+21.5	240.2	−12.0	------	77	96
Dec. 16 (Naval Observatory	11 57	+32.0	237.4	−11.0	31	------	------
		+38.5	243.9	−14.0	------	62	93
Dec. 17 (Yerkes Observatory)	12 43	−75.0	116.8	−7.1	260	------	------
		−67.8	124.0	−8.6	266	------	526
Dec. 18 (Naval Observatory)	11 10	−69.5	110.0	−10.0	62	------	------
		−55.0	124.5	−11.5	------	31	------
		+48.0	227.5	+12.0	31	------	------
		+60.0	239.5	−12.0	------	31	------
		+67.5	247.0	−13.0	------	31	186
Dec. 19 (Mount Wilson)	14 45	−82.0	82.4	+17.0	19	------	------
		−55.0	109.4	−9.0	162	------	------
		−49.0	115.4	+10.0	------	30	------
		−41.0	123.4	−11.0	------	11	------
		−26.0	138.4	−8.0	------	4	------
		+61.0	225.4	+11.0	------	166	------
		+80.0	244.4	−15.0	------	30	422
Dec. 20 (Naval Observatory)	13 54	−40.0	111.6	−9.0	123	------	------
		−33.0	118.6	+10.0	31	------	154
Dec. 21 (Naval Observatory)	11 10	−29.0	110.9	−9.5	------	108	------
		−21.0	118.9	+9.0	15	------	123
Dec. 22 (Naval Observatory)	11 49	−39.5	86.9	+12.0	31	------	------
		−12.0	114.4	−9.5	------	108	------
		−9.5	116.9	+9.8	31	------	170
Dec. 23 (Naval Observatory)	11 28	−1.5	111.9	−9.5	------	108	------
		+30.0	143.4	+2.0	------	62	170
Dec. 24 (Naval Observatory)	11 9	−16.5	83.9	+15.0	31	------	------
		−11.5	88.9	+13.0	------	62	------
		+12.5	112.9	−8.5	------	77	170
Dec. 25 (Naval Observatory)	11 5	+2.5	89.8	+13.0	------	62	------
		+6.5	93.8	+16.0	45	------	------
		+26.0	113.3	−8.5	------	31	138

* No spots.

POSITIONS AND AREAS OF SUN SPOTS—Continued

Date	Eastern standard civil time	Heliographic Diff. long.	Heliographic Longitude	Heliographic Latitude	Area Spot	Area Group	Total area for each day
1930	h m	°	°	°			
Dec. 26 (Mount Wilson)	14 15	−52.0	20.4	+10.0	------	6	------
		−33.0	39.4	+9.0	------	6	------
		+5.0	77.4	+19.0	------	4	------
		+17.0	89.4	+14.0	------	115	------
		+39.0	111.4	+7.0	5	------	------
		+39.0	111.4	−9.0	------	4	140
Dec. 27 (Naval Observatory)	12 46	−32.0	28.0	+11.5	------	108	108
Dec. 28 (Mount Wilson)	13 0	+45.0	91.7	+13.0	72	------	72
Dec. 29 (Naval Observatory)	12 33	+68.5	102.3	+17.0	46	------	46
Dec. 30 (Naval Observatory)	10 45	+70.0	91.6	+17.0	------	62	62
Dec. 31 (Naval Observatory)	11 17	------	------	------	------	------	(*)
Mean daily area for December							160

* No spots.

PROVISIONAL SUN-SPOT RELATIVE NUMBERS FOR DECEMBER, 1930[1]

[Data furnished through the courtesy of Prof. W. Brunner, University of Zurich, Switzerland]

December, 1930	Relative numbers	December 1930	Relative numbers	December, 1930	Relative numbers
1	a 47	11	21	21	c 35
2	36	12	------	22	28
3	35	13	15	23	a 31
4	21	14	22	24	45
5	8	15	a 22	25	a 52
6	8	16	20	26	53
7	7	17	d 30	27	41
8	c	18	d 52	28	26
9	E 8	19	Wcc 50	29	9
10	19	20	42	30	15
				31	14

Mean: 28 days=28.0.

[1] Dependent alone on observations at Zurich and its station at Arosa.

a=Passage of an average-sized group through the central meridian.
b=Passage of a large group through the central meridian.
c=New formation of a large or average-sized center of activity: E, on the eastern part of the sun's disk; W, on the western part; M, in the central zone.
d=Entrance of large or average-sized center of activity on the east limb.

AEROLOGICAL OBSERVATIONS

By L. T. SAMUELS

Free-air temperatures during December were below normal at all stations except from the surface to 2,000 meters at Ellendale. (See Table 1.) The largest departures occurred at Due West and Groesbeck.

The free-air relative humidities were mostly above normal with the largest departures occurring in the higher levels at Ellendale.

Free-air vapor pressures, in agreement with the temperatures, were below normal at all stations except Ellendale, with the largest departures occurring at Due West and Groesbeck.

It is interesting to note that notwithstanding the supernormal relative humidities and vapor pressures at Ellendale, the total precipitation for the month was the lowest of record (14 years), being only 0.07 inch. However, the month had 15 cloudy and 10 partly cloudy and 6 clear days.

Free-air resultant winds for the month at the 1,000-meter level contained a pronounced westerly component at all stations east of the Rockies and north of latitude 30°. The resultant velocities ranged from 4 meters per second in the southern section to 8 meters per second in the north. Along the Pacific coast and northern Rocky Mountain region the resultant winds were variable and the velocities mostly light.

At 3,000 meters a westerly component prevailed at all stations, including Key West, with the highest resultant velocities in the north-central portion of the country.

The monthly resultants for a representative group of stations are shown in Table 3.

TABLE 1.—*Free-air temperatures, relative humidities, and vapor pressures during December, 1930*

TEMPERATURE (° C.)

Altitude (*Meters*) m. s. l.	Broken Arrow, Okla. (233 meters)		Due West, S. C. (217 meters)		Ellendale, N. Dak. (444 meters)		Groesbeck, Tex. (141 meters)		Royal Center, Ind. (225 meters)	
	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal
Surface	2.6	−1.6	2.5	−4.5	−5.6	+3.9	6.5	−2.6	−2.2	−0.5
500	2.9	−0.8	2.7	−4.1	−5.6	+3.8	6.1	−2.4	−3.1	0
1,000	1.8	−1.4	2.6	−3.6	−4.4	+2.6	4.3	−4.1	−3.8	−0.1
1,500	0.4	−2.4	1.8	−3.1	−5.2	+1.3	3.0	−4.5	−4.4	−0.5
2,000	−1.2	−2.7	0.0	−3.3	−7.4	+0.2	1.7	−4.3	−5.7	−0.6
2,500	−3.6	−3.1	−2.1	−3.4	−9.8	−0.2	−0.1	−4.1	−7.3	−0.4
3,000	−5.7	−2.9	−4.3	−3.4	−12.4	−0.3	−1.7	−3.4	−9.6	−0.5
4,000	−10.9	−2.8	−10.2	−4.2	−19.3	−1.7	------	------	−17.4	−2.6

RELATIVE HUMIDITY (%)

Surface	79	+9	78	+4	82	+1	77	+3	82	+2
500	66	+2	71	+5	81	+2	65	−2	77	0
1,000	57	+4	65	+5	71	+6	59	+2	71	+5
1,500	53	+10	58	+2	67	+9	48	−1	58	+2
2,000	51	+13	57	+5	69	+14	41	−1	52	0
2,500	48	+12	55	+7	69	+14	40	+1	49	−2
3,000	44	+8	51	+7	67	+13	41	+5	43	−8
4,000	38	+4	53	+10	73	+20	------	------	52	0

VAPOR PRESSURE (*mb.*)

Surface	5.94	−0.33	5.87	−2.17	3.30	+0.62	7.70	−1.73	4.44	−0.19
500	5.08	−0.49	5.45	−1.80	3.27	+0.63	6.35	−1.97	3.81	−0.24
1,000	4.00	−0.48	4.91	−1.38	3.04	+0.63	5.02	−1.75	3.18	−0.15
1,500	3.27	−0.32	4.01	−1.26	2.66	+0.47	3.66	−1.60	2.56	−0.18
2,000	2.75	−0.16	3.50	−0.76	2.27	+0.40	2.89	−1.07	2.05	−0.24
2,500	2.19	−0.19	2.92	−0.47	1.85	+0.27	2.57	−0.59	1.77	−1.19
3,000	1.82	−0.19	2.60	−0.13	1.49	+0.23	2.47	−0.07	1.39	−0.31
4,000	1.39	−0.06	2.43	+0.45	0.85	+0.07	------	------	1.09	−0.10

TABLE 2.—*Free-air data obtained at naval air stations during December, 1930*

Altitude (*meters*) m. s. l.	Temperature (°C.)				Relative humidity (%)			
	Hampton Roads, Va.	Pensacola, Fla.	San Diego, Calif.	Washington, D. C.	Hampton Roads, Va.	Pensacola, Fla.	San Diego, Calif.	Washington, D. C.
Surface	2.3	8.3	15.1	−1.3	70	84	49	74
500	1.0	7.9	14.0	−1.7	61	77	47	70
1,000	−0.6	7.1	13.0	−2.4	56	70	37	64
2,000	−2.6	5.7	9.0	−4.3	37	53	22	54
3,000	−7.6	2.1	3.5	−7.4	41	47	14	46
4,000	------	------	------	−11.6	------	------	------	53

TABLE 3.—*Free-air resultant winds (meters per second) based on pilot balloon observations made near 7 a. m. (E. S. T.) during December, 1930*

Altitude (meters) m.s.l.	Broken Arrow, Okla. (233 meters)		Brownsville, Tex. (12 meters)		Burlington, Vt. (132 meters)		Cheyenne, Wyo. (1,873 meters)		Due West, S. C. (217 meters)		Ellendale, N. Dak. (444 meters)		Groesbeck, Tex. (139 meters)		Havre, Mont. (762 meters)		Jacksonville, Fla. (14 meters)		Key West, Fla. (11 meters)		Los Angeles, Calif. (127 meters)		Medford, Oreg. (410 meters)	
	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity
	°		°		°		°		°		°		°		°		°		°		°		°	
Surface	N 72 W	1.0	N 27 W	1.4	S 2 E	2.2	N 69 W	4.9	N 13 E	1.2	N 70 W	3.3	N 29 W	1.5	S 62 W	3.5	N 37 W	1.8	N 35 E	3.7	N 2 W	1.7	S 4 W	0.2
500	N 53 W	2.9	N 42 E	3.0	S 37 W	5.1	------	----	N 6 W	2.8	N 72 W	4.3	N 26 W	2.8	------	----	N 17 W	3.9	N 85 E	5.3	N 81 E	1.6	N 45 E	0.4
1,000	N 54 W	6.4	N 43 E	1.1	S 76 W	6.6	------	----	N 47 W	3.0	N 43 W	8.8	N 28 W	3.4	S 76 W	7.2	N 68 W	4.9	S 81 E	4.7	S 84 E	0.7	S 40 E	3.0
1,500	N 52 W	7.8	S 79 W	1.8	S 86 W	7.9	------	----	N 66 W	5.7	N 60 W	8.8	N 49 W	2.5	N 73 W	10.1	N 73 W	8.3	S 19 E	4.2	N 61 E	0.1	S 20 W	3.2
2,000	N 64 W	9.3	S 74 W	3.6	S 76 W	8.0	N 66 W	7.8	N 74 W	8.6	N 53 W	10.6	N 60 W	3.8	N 69 W	10.0	N 71 W	9.2	S 1 W	4.6	N 3 E	0.7	S 42 W	4.7
2,500	N 58 W	11.0	S 68 W	5.4	S 82 W	8.4	N 52 W	11.1	N 73 W	9.7	N 45 W	11.5	N 70 W	6.3	N 65 W	9.0	N 67 W	8.6	S 35 W	5.3	N 2 E	1.4	S 46 W	7.4
3,000	N 80 W	11.3	N 84 W	7.2	S 84 W	9.4	N 42 W	9.8	N 78 W	9.5	N 55 W	10.0	N 77 W	9.0	N 64 W	9.7	N 72 W	12.7	S 50 W	5.0	N 13 E	1.8	S 54 W	7.4
4,000	------	----	S 70 W	11.8	------	----	N 42 W	8.6	N 76 W	10.5	------	----	------	----	------	----	------	----	------	----	------	----	S 68 W	6.3
5,000	------	----	------	--	------	----	N 74 W	5.5	------	----	------	----	------	----	------	----	------	----	------	----	------	----	------	----

Altitude (meters) m.s.l.	Memphis, Tenn. (145 meters)		Modena, Utah (1,665) meters)		New Orleans, La. (25 meters)		Omaha, Nebr. (299 meters)		Phoenix, Ariz. (356 meters)		Royal Center, Ind. (225 meters)		Salt Lake City, Utah (1,294 meters)		San Francisco, Calif. (8 meters)		Sault Ste. Marie, Mich. (198 meters)		Seattle, Wash. (14 meters)		Sheridan, Wyo. (1,153) meters)		Washington, D. C. (10 meters)	
	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity
	°		°		°		°		°		°		°		°		°		°		°		°	
Surface	N 58 W	0.4	N 86 W	1.2	N 32 E	1.4	N 34 W	1.7	S 89 E	3.3	S 63 W	1.3	S 45 E	1.1	N 70 E	0.6	N 43 W	0.6	S 29 E	1.4	N 57 W	0.8	N 51 W	1.7
500	N 43 W	2.0	------	----	N 31 E	3.0	N 45 W	3.8	E	3.8	S 72 W	4.4	------	----	N 44 E	2.8	N 79 W	2.7	S 5 E	4.7	------	----	N 65 W	4.9
1,000	N 65 W	6.3	------	----	N 25 W	1.6	N 46 W	6.7	N 75 E	4.0	N 87 W	6.6	------	----	N 19 E	2.8	N 70 W	4.9	S 11 W	5.7	------	----	N 59 W	7.4
1,500	N 71 W	7.3	------	----	N 53 W	3.7	N 57 W	11.2	N 86 E	2.4	S 85 W	7.5	N 63 E	0.2	N 29 W	2.3	N 69 W	6.7	S 26 W	5.7	N 56 W	5.3	N 62 W	6.4
2,000	N 64 W	8.2	N 39 E	2.3	N 53 W	6.6	N 62 W	13.4	N 51 E	1.5	S 83 W	8.8	N 87 W	0.7	N 49 W	1.2	N 66 W	7.1	S 32 W	7.3	N 49 W	8.6	N 83 W	8.4
2,500	N 60 W	7.4	N 7 E	2.1	N 67 W	8.8	N 57 W	14.6	N 8 W	2.8	N 83 W	7.8	N 54 W	1.7	S 66 W	1.8	N 59 W	7.3	S 31 W	7.3	N 51 W	10.0	S 89 W	10.4
3,000	N 79 W	5.6	N 12 W	3.9	N 73 W	8.2	N 45 W	11.6	N 17 W	3.9	N 56 W	7.1	N 39 W	2.6	S 45 W	1.8	N 37 W	7.8	S 48 W	9.5	N 55 W	9.7	------	----
4,000	------	----	N 31 W	5.9	------	----	------	----	N 36 W	6.0	------	----	N 88 W	2.4	------	----	------	----	------	----	N 49 W	10.4	------	----
5,000	------	----	N 51 W	6.5	------	----	------	----	N 48 W	2.5	------	----	------	----	------	----	------	----	------	----	N 49 W	5.2	------	----

TABLE 4.—*Observations by means of kites, captive and limited height sounding balloons during December, 1930*

	Broken Arrow, Okla.	Due West, S. C.	Ellendale, N. Dak.	Groesbeck, Tex.	Royal Center, Ind.
Mean altitudes, (meters) m. s. l., reached during month	2,839	2,193	2,649	2,184	2,687
Maximum altitude (meters), m. s. l., reached	4,212	4,588	4,794	3,397	4,588
Number of flights made	30	32	32	23	29
Number of days on which flights were made	29	31	29	23	28

In addition to the above there were approximately 176 pilot balloon observations made daily at 60 Weather Bureau stations in the United States.

AEROLOGICAL OBSERVATIONS FOR THE YEAR 1930

By L. T. SAMUELS

Free-air temperatures during 1930 were slightly above normal in the northern part of the country and slightly below in the southern part. (Table 1.) There was a tendency for the negative departures to increase in magnitude with elevation.

Free-air relative humidity departures were mostly negative and of small magnitude. Negative relative humidity departures occurred with negative temperature departures at most stations and levels and this appears significant in connection with the general drought which prevailed.

Vapor pressure departures were negative except at Ellendale and in the upper levels at Broken Arrow, Due West, and Royal Center. The largest negative departures occurred at Groesbeck.

From Table 2 it is found that the total number of flights (kites, captive, and limited-height sounding balloons) made during the year at the five stations was 1,749. This is an average of 350 flights per station. The average altitude reached was 2,743 meters above sea level. The highest elevation (8,384 meters) reached during the year was that of a limited-height sounding balloon at Ellendale on September 29, 1930. In addition there were 40 sounding balloon observations made at 10 Weather Bureau stations during January and 36 at Royal Center during September, the latter being the international month.

TABLE 1. *Free-air temperatures, relative humidities, and vapor pressures during year 1930*

TEMPERATURE (°C.)

Altitude meters m. s. l.	Broken Arrow, Okla. (233 meters)		Due West, S. C. (217 meters)		Ellendale, N. Dak. (444 meters)		Groesbeck, Tex. (141 meters)		Royal Center, Ind. (225 meters)	
	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal
Surface	14.3	−1.2	15.2	−1.3	6.1	+0.5	16.2	−1.9	10.7	−0.3
500	14.0	−0.1	14.1	−0.6	5.9	+0.4	15.4	−0.9	9.3	+0.3
1,000	12.6	+0.3	12.0	−0.4	5.0	+0.4	14.1	−0.6	7.1	+0.3
1,500	10.6	+0.1	9.5	−0.5	3.5	+0.3	12.2	−0.8	4.7	−0.1
2,000	8.2	−0.1	6.8	−0.8	1.4	+0.4	10.0	−0.9	2.6	−0.1
2,500	5.5	−0.2	4.2	−0.9	−1.2	+0.4	7.4	−1.1	0.2	−0.2
3,000	2.6	−0.3	1.6	−0.9	−3.9	+0.5	4.8	−1.1	−2.3	−0.2
4,000	−3.8	−1.0	−3.8	−0.8	−9.9	+0.1	−0.8	−1.2	−8.2	−0.9
5,000	−9.6	−1.2	−9.4	−0.8	−15.9	−0.2			−14.0	−0.7

RELATIVE HUMIDITY (%)

Surface	69	+1	69	+1	70	−2	78	+4	70	0
500	63	−2	64	−2	70	−1	70	−1	67	−2
1,000	57	−4	61	−3	64	0	59	−4	64	−2
1,500	53	−4	59	−3	59	0	52	−3	60	−2
2,000	50	−3	57	−2	56	−1	48	−1	56	−2
2,500	48	−2	55	−1	56	0	45	0	53	−1
3,000	47	−2	53	0	55	0	43	+1	51	−1
4,000	48	+2	53	+3	55	+2	32	−7	47	−1
5,000	40	−3	56	+10	51	+1			42	−5

VAPOR PRESSURE (*mb.*)

Surface	12.93	−0.83	13.58	−0.42	8.03	−0.04	16.21	−0.57	10.50	−0.28
500	11.70	−0.46	11.85	−0.52	7.90	+0.04	13.79	−0.88	9.20	−0.16
1,000	9.64	−0.33	9.71	−0.70	6.56	+0.18	10.26	−1.34	7.61	−0.14
1,500	7.84	−0.21	7.90	−0.71	5.42	+0.15	7.94	−1.04	6.20	−0.07
2,000	6.21	−0.13	6.33	−0.55	4.39	+0.08	6.23	−0.70	4.82	−0.20
2,500	4.88	−0.08	5.01	−0.42	3.56	+0.03	5.02	−0.46	3.74	−0.12
3,000	4.00	+0.07	4.04	−0.27	2.90	+0.06	4.24	−0.14	3.04	+0.01
4,000	2.81	+0.36	2.83	+0.02	1.75	−0.08	1.57	−1.31	1.91	+0.07
5,000	1.91	+0.38	2.65	+0.71	0.96	−0.22			1.05	−0.26

TABLE 2.—*Observations by means of kites, captive and limited height sounding balloons during 1930*

	Broken Arrow, Okla.	Due West, S. C.	Ellendale, N. Dak.	Groesbeck, Tex.	Royal Center, Ind.
Mean altitudes (meters), m. s. l., reached during month	2,793	2,644	3,004	2,327	2,940
Maximum altitude (meters), m. s. l., reached and date	6,397	5,789	[1] 8,384	4,485	[2] 8,201
Number or flights made	354	359	387	302	347
Number of days on which flights were made	355	337	348	278	334

[1] Limited height sounding balloon observation.
[2] Captive balloon observation (breakaway).

In addition to the above there were approximately 150 pilot balloon observations made daily at nearly 60 weather bureau stations in the United States.

WEATHER IN THE UNITED STATES

THE WEATHER ELEMENTS

By M. C. BENNETT

GENERAL SUMMARY

December was mostly mild east of the Rocky Mountains and generally dry. In the west Gulf section and the Southeastern States, as far north as the Potomac and Ohio Rivers, the temperature for the month was below normal, with freezing temperatures extending into Florida, while in the central and northern regions, from the Mississippi Valley to the Rocky Mountains, abnormally high temperatures for the season prevailed; but in the Great Basin it was unusually cold. However, in the far Southwest and Pacific coast districts, near normal temperatures were the rule.

Generous amounts of precipitation were received in many places in the South Atlantic States and in eastern West Virginia, but many of the Atlantic coast districts had less than normal. From the Ohio and Missouri Valleys northward, the totals were small, with large areas receiving less than one-fourth of the normal, while in much of Texas and Oklahoma more than the normal was received. But from the Rocky Mountains westward the month was generally dry, with considerable areas in the southern portion of the Plateau and Pacific regions receiving no appreciable precipitation.

TEMPERATURE

While a cold snap swept quickly over the north-central and northeastern areas as the month started, yet the first half of December averaged warmer than normal over nearly the whole country, except that portions of the Atlantic States and the lower Lake region averaged slightly colder than normal, while decidedly cold weather persisted in the northern and central Plateau areas.

From the middle of the month onward warm weather persisted in the north-central portion from Wisconsin and northern Illinois to central Montana and northeastern Wyoming, and this period was slightly warmer than normal in New England and much of New York, Washington, and California. The greater part of the country, however, was cooler than normal during most of this half-month. The southeastern portion and the Plateau region showed fairly large negative departures, low temperatures prevailing in the former from the 17th to the 24th, while